

# **ACCEPTANCE OF MOBILE SERVICES**

## **Insights from the Swedish market for mobile telephony**

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#### **ABSTRACT**

The main purpose of the paper is to investigate young peoples' perspectives on mobile services in order to shed light on the acceptance of mobile services. The knowledge of and interest in mobile services of individuals using such services is analyzed. A second objective is to investigate the reasons for using/not using mobile services. In-depth focus group interviews and secondary empirical data provide the main data. Concerning the youth's general knowledge of and interest in mobile services, the results point to six things: young people show a low demand for many mobile services, there is a demand for extended, established mobile services, like SMS, the interest in the new services vary, there is low interest in active information search, there is little knowledge of the enabling technology, and the understanding of the pricing is generally low. As concerns reasons for and against usage of mobile services, results point to four central aspects: many individuals could present clearly defined needs for certain services, many indicated an interest in "community usage" of mobile services, they experienced the prices of mobile services to be a hinder for usage, and technology placed limitations on the usage. The paper discusses practical implications on the acceptance of mobile services.

#### **KEY WORDS**

Mobile services, mobility, focus groups, telecommunications, wireless, knowledge

## **ACCEPTANCE OF MOBILE SERVICES**

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#### MOBILE SERVICES: BACKGROUND

The market penetration of mobile phones is rapidly increasing around the world and is already challenging fixed telephony in many countries. Alongside the growing penetration also the role of mobile phones is changing. From having been a luxury product in the late 1980s and early 1990s the turn of the century brought along a status shift of mobile phones. Currently, in Scandinavia and most other developed countries the mobile phone is merely a mass product.

It can be argued that the mobile phone and the mobile service are equally important to the consumer. The use of mobile phones, although at face value an independent product in itself, requires the simultaneous use of supporting services, such as phone subscription, short message services, voice mail. For example the world's leading mobile phone manufacturer, Nokia, is arguing that in the advent of one system standard, UMTS, services, not products, will differentiate different mobile devices from each other. Thus the development is consistent with the development in the academia towards services.

One interesting issue that contradicts this is the rather lame consumer usage of mobile services (as opposed to mobile phones). Admittedly, some sorts of mobile services have received much interest, such as the assertive consumer interest in the rather trivial service Short Message Services. Also, the developments in Japan, with I-mode, show that there is a future for mobile services. However, the adoption of mobile services in Europe has proven over dimensioned, which is especially apparent looking back at the flop of WAP services. But interestingly, consumers are not demanding more services; rather they accept

the existing (and often non-functioning) range of services. The relevant is thus what this gap between the mobile hype and consumer adoption is based on.

Mobile Internet applications are made possible by the convergence of Internet and mobile computing technologies. In the near future, mobile applications are expected to be able to offer unique features and capabilities for value creation and realisation, either in the context of existing products and channels or new offerings, businesses, customer and supplier relationships, and even a new set of social innovations. It is also expected that m-commerce might facilitate profound changes in the character of the Internet itself.

However, increasing rate of technology change is also coupled with socio-economic, political and competitive factors that tend to produce high levels of customer confusion (e.g. Turnbull, Leek and Ying 2000). In the mobile phone market customer confusion is created by elements such as the number of operators, promotion activities, technology, tariffs and billing, services as well as government regulations. Perceived risk is high, caused by rapid technology developments and changing regulations and marketing behavior. In addition, knowledge and choice uncertainty has been shown to be high.

Hence, at this stage, a large number of questions are posed given the embryonic state of m-commerce today. For example, from the customer perspective, what drives demand for products and services ordered and/or delivered via mobile devices? What are the challenges from the customer side, and what are the reasons for selecting the mobile instead of the wired Internet platform for a product or service delivery? There is thus a general uncertainty of *what* factors that affect individuals' ability to exploit mobile applications, and *how* mobile applications and services will affect customers' behaviour, including work- and life-styles.

These questions are mirrored by a set of important issues for the management of the supply side of mobile services. Against the background of customer uncertainty, on the

road to a mobile Internet strategy, supply side firms must consider the opportunities and options available for leveraging existing business models and inventing new ones. In both fixed and mobile networks, network operators are forced to introduce value-added services that provide end-users with interesting applications that they are prepared to pay for. The industry is forced to bridge the gap to the end-users in order to understand how the technology is used and how it contributes to the users' value added activities. This paper takes the customers' general knowledge and usage of mobile services as starting point to discuss also important managerial implications for the supply side of this new, emerging industry.

The paper presents suggestions for further research in the ongoing, long-term studies of mobile telephony services and “mobility”. More recent phases of this research, has outlined some steps for the study of how the implementation of “mobility”, in broad terms, is linked to changes in the relationships between suppliers and buyers of mobile communication systems (Andersson & Mölleryd 2000). The concept of “mobility” has been the starting point for these discussions. In contrast to prior studies with the supply systems in focus, this paper takes the users, the user situations and contexts, and the new services and value added activities as starting point.

### PURPOSE AND OBJECTIVES

The main purpose of this paper is to investigate young peoples' perspectives on mobile services in order to shed light on the acceptance of mobile services. This is done by analyzing the knowledge and interest that users of mobile services have, and analyze whether there exists linkages to the usage mobile services and the factual knowledge of such services.

A second objective is to investigate the reasons for using/not using mobile services. This paper analyses whether mobile services actually are needed or whether the hype of future mobile service usage is just an exaggeration. One important issue concerns whether the future mobile services can be expected to create new demands.

To guide these two aims of the paper two broad research questions are discussed: 1) What is the general knowledge of and interest in mobile services, both existing and planned, among various customers? 2) What reasons do these customers give for using or not using these mobile services? The management implications of the answers to these two questions are also discussed.

## METHODOLOGY

### The Overall Research Project and the International Focus Group Study

The research results reported here belong to a broader, international study on mobile commerce. The study includes three phases. The first phase<sup>1</sup>, to which this paper belongs, examines the demand side of mobile services: What will drive demand for products and services ordered and/or delivered via mobile devices? What are the challenges from the customer side? This phase involves 4 to 6 focus groups from each of the following

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<sup>1</sup> Phase One of the project asks what the drivers and barriers are from the customer side. Phase Two focuses on business strategies, organizational issues, and implementation of mobile applications. Phase 3 develops the requirements for IT infrastructures. Phases 2 and 3 plans to focus on four industries: Retail (e.g., National Retail Association has already expressed interest in participating), Finance and Insurance, Entertainment (music and games), and Information management services (directory and reservation services, diary, travel services).

countries/geographic areas: Finland, Sweden, Hong Kong, Japan, Southwest USA, and Northeast USA. There will be approximately 35 focus groups with individuals who consider themselves regular or heavy users of mobile applications.

### The Swedish Focus Groups

In the first step of the Swedish focus group study the youth segment was selected as a highly relevant population, given that they represent a growing segment of involved customers of mobile services. Mobile services currently provided by service providers and mobile operators focus on this youth segment in addition to the business user segment. By and large, the youth is more interested in innovations. Individuals' knowledge and interest in services were investigated through questionnaires and a follow-up interview, lasting one hour, and with four different customer groups aged 15-25:

- Young teenagers 15-16 (two groups of 9<sup>th</sup> grade students)
- Young adults 18-19 (high school seniors)
- Young officers in the Swedish navy

The focus group interviews included a total of 20 individuals and they took approximately two hours to conduct each. They were conducted during the period of three months during the Spring 2000.

Each focus group interview started with a questionnaire that contained general questions about age, sex, occupation, education, household size etc. It also contained general questions about the current and past usage of mobile services. The in-depth focus group interviews then continued with a more profound discussion concerning aspects of usage, including: frequency, other persons related to usage, different usage situations, Internet usage

vs. mobile usage, professional vs. personal usage, various effects of usage, ideas and expectations about future usage, ideas and knowledge of future services (such as pictures, localisation, chat etc.), and the perceived relevance of and probability of usage of these future services. The discussions also elaborated on various specific topics concerning e.g. the perceptions of different hardware, pricing issues, and perceived problems of today's mobile services. The discussions were audio taped.

A central topic in the interviews concerned the perceived value of different existing and future mobile services. On the general question what the most valuable thing about mobile services is and is expected to be, also a set of alternatives were provided, e.g. "it's always on", "it's always with me", "it provides position information", "it's cheaper than other Internet access technologies", "it's an unique personal device" etc. This part of the discussions also provided information about the general knowledge users of existing vs. planned, future applications of mobile services.

Focus group interviews have been successful in providing managerial insight. The use and benefits of focus group have been discussed (e.g. de Ruyter 1996) as a technique for determining customer perceived value (e.g. Goodman 1999) and customer attitudes towards services (e.g. Dotson and Patton 1992). Focus group techniques have been used on the supply side, in connection with cross-national studies, where respondents were encouraged to express experiences, attitudes, needs and ideas relevant to the supplying organisations' marketing strategies (Wright 1996).

## THEORETICAL BACKGROUND

### Knowledge about the market



The recent developments in information technology have created totally new service concepts and re-designed existing services (e.g. Berry and Lampo 2000; Grönroos et al 2000; Isoniemi and Snellman 2000, Meuter et al 2000). Technology also changes the service environment (Bitner et al 2000) and affects internal and external relationships (Parasuraman and Grewal 2000).

Research has showed that customer control is growing (Prahalad and Ramaswamy 2000) and this is intensified with the informationally empowered consumer (Lewis and Bridger 2000). Von Hippel (1988) states that customers often form an untapped pool of resources in terms of product ideas. In line with this, Wikström (1996) discussed the growing population of advanced customers, including their role as co-producers of new services and products. With all the changes occurring on the services market, the issue of customer knowledge is highly relevant. However, customer confusion is shown to be high, especially in the mobile industry (Lascu and Zinkhan 1999). Do customers have sufficient knowledge about services on the market?

With the study of mobile telephony as empirical foundation, Riquelme (2001) argued that while most marketers still assume that customers know what they want, in reality customers may not know as much as they think they do. They are rationally bounded and thus rely on heuristics to choose the most salient information and are subject to biases in different parts of the inferential process. This shall be seen against the background of substantive research on various aspects of customer learning and evaluation of products (see e.g. Alba et al. 1991), including the effect of particular product attributes on buyers' product evaluations (see e.g. Dodds et al 1991, Hutchinson and Alba 1991, Costley and Bucks 1992, Lynch and Chakravati 1991). Riquelme showed that the mobile phone as a category is interesting for attribute research as it is a product/service that customers are highly familiar with, it is frequently used, it is frequently advertised, and customers generally can be assumed to have

good current knowledge about the characteristics of the mobile phone plan they have purchased. One result of the study suggested that customers of mobile phones have a relatively good predictive power of their mobile phone plans.

### Adoption of innovations

The adoption of new services, i.e. making the decision to accept or reject an innovation, depends on compatibility, triability, observability, complexity, communicability, relative advantage and perceived risk (e.g. Hirschmann 1987, Rogers 1995, de Ryuter, Wetzels and Kleijnen 2000). First, the adoption relates to compatibility, where the new service must be consistent with the user's present needs, motives, values, beliefs and behaviour. This depends on functional and/or symbolic properties. Second, the service must be triable, i.e. the customer must be able to try out an innovation without incurring risk to valued resources, such as money, time, information, esteem or status. Third, the innovation must be observable enabling social visibility for the consumer. Complexity refers to the difficulty of understanding the benefits of the service and the relationships between attributes or features and these benefits. Thus, consumers use familiar characteristics to assess innovations. Furthermore, it must also be possible to communicate the new service, especially about the activities that are visible to others. This relates to relative advantage, where the new service, considering economic and non-economic factors, must lend itself superior than existing alternatives. Finally, perceived risk in terms of psychological and performance concerns must be reasonable.

Hirschmann (1987) shows that the more an innovation tangibly resembles a traditional solution, the more likely it is adopted, regardless of its actual ability to perform the task. Taking this point of view, it can be argued that it is not the new technology that the

customers are dissatisfied with. While the technology is new, the customers are familiar with the essence of using it. Rather, it is the supporting services that are new. Thus, the customers need to perceive the benefits in the activity that the mobile phone performs.

The complexity of mobile networks, prices and operator contracts make the situation even more difficult for the user and can result in inactivity rather than activity from the customer (Turnbull, Leek and Ying 2000). Consequently, simplifying the assessment of mobile services will actually increase the activity of customers and create new needs.

Yet the assessment of mobile services is not only an individual action. In fact, users may be affected by other reference groups or individuals. Customers conform their evaluations and purchase behavior as a result of the evaluations and purchase behavior of referent others (Lascu and Zinkhan 1999). This is usually a result of informational influence through internalization or of normative influence through compliance or identification. Consequently, the individual's acceptance of mobile services are linked and affected by his/her reference group.

### GENERAL FOCUS GROUP FINDINGS

General findings from the focus group interviews point to a set of factors that appear to be common across the groups. There were few differences based on gender, but age created variations. The younger the group members, the more they tend to focus on entertainment services. However, a common characteristic was also that most individuals in this group had difficulties in specifying their general willingness to pay for such services. In many cases, the user and the payer were not one and the same individual.

In general, most groups found it difficult to suggest future, possible services for mobile Internet. There were also obvious gaps between the general interest in new services

and the actual, possibility of future usage of certain given services. One common feature was the general demand for services based on interactive communication. Most young users agreed that general trends in services (like SMS) will be an important determinant also of the success of future mobile services.

As concerns the view of the supply side, the strongest position in the eyes of individuals in all focus groups had the operators. Although the respondents did not always identify the main supplier of various services, it was the operator that receives most attention. However, this did not appear to be correlated with a general sense of loyalty to the operators. Most individuals did not perceive themselves as having particularly strong bonds with operators.

Next, the two research questions are elaborated on: 1) What is the general knowledge of mobile services, existing and planned future services, among customers? 2) What reasons do customers give for using or not using these mobile services?

Concerning individuals' general knowledge of and interest in mobile services, the focus group results point to six things: individuals show a low demand for many mobile services, there is a demand for extended, established mobile services, like SMS. Their opinions about the interest in the new services vary, there is a low interest in active information search, there is little knowledge of the enabling technology, and the understanding of the pricing is generally low. The results on reasons for and against usage of mobile services point to four central aspects: many individuals can present clearly defined needs for certain services, many indicate an interest in "community usage" of mobile services, they experience the prices of mobile services to be a hindrance for usage, and there are limitations to usage due to failing technologies.

## EMPIRICAL RESULTS 1: INDIVIDUALS' KNOWLEDGE OF AND INTEREST IN MOBILE SERVICES

### A Generally Low Demand

The mobile services market has so far been characterized by invention push strategies where suppliers have been the driving force behind new products. It can be asked whether the supply side of mobile services is not sensitive enough to customer demands or is customer interest just non-existent. The focus group study indicates that customer knowledge about existing products is low, but that some areas of demand are clearly distinguishable. However, demand among the younger segment is not always labeled with clear needs, such as "ability to send pictures", but are often defined in terms of entertainment and social belonging. Just what services might fulfill this need remains unclear. As compared to existing services, most interviews - also in the younger age groups - indicated a strong loyalty to existing mobile services, like SMS.

All of the respondents used SMS services and voice mail in addition to calling. The frequency of the usage was also high, ranging from calling several times a day, daily checking voice mail to using SMS several times a week. When looking at the frequency of usage, e-mail services seem especially interesting. E-mail is used on daily basis. The downside is that the small number of users, only 5 % of the respondents said they used e-mail. It would be interesting to see the development of this, because it can be expected that the usage of this kind of services will increase, considering the usage of SMS.

Services that relate to entertainment and amusement were particularly interesting. Games were used by 45 % of the respondents on average once a week. This is consistent with the experiences in Japan with I-mode, where entertainment services are

especially popular. Also the download of icons and songs was considered interesting as 40 % of the respondents said that they used this kind of services. However, the frequency was low, the services were used on average once a month.

Services that related to activity management were used to a lesser degree than entertainment services. Weather information was used by 15 % several times a week, indicating that real-time and localised information has potential to create value to users. Financial information services were used only once a week by 15 % of the respondents. Timetables and calendars received little attention and the usage was only sporadic. This indicates that services that respond to a clear and rational are less important than those services that respond to social belonging and impulses.

### Demand For Extended Services

Concerning the actual use of services it is interesting to note that customers often have many ideas and preferences about extended services. This is particularly true in the case of SMS where interest in complementary services, such as the possibility to add a picture or a photograph to the message, and desire for greater capacity in terms of characters per message or inbox size were strong. Moreover, respondents also demanded easier services rather than a large quantity of new services and applications.

*“Invest on simplifying the services rather than on increasing the quantity of services and functions.”*

Some services that currently are conducted on the Internet could also be used on the mobile. This was especially the case for information services, such as short news or information helping purchases, pointing to the interest in rational services.

### Interest in new services

When asked about the interest in new services, opinions were diverse. Some thought that the services were unnecessary and that everything would be possible to do without using the mobile. Others felt that the pure benefit of doing something independently of time and location was pleasant and that they would change many activities directly to the mobile if possible. By and large, it was difficult to pinpoint one or two services that were superior. Instead many services received attention and raised a discussion. However, findings show that interest of mobile services and likelihood of usage do not go hand in hand.

Looking at the interest in new services, downloading pictures and photos was the main attraction. On the scale of 1 to 10, it received 7,3, stating that general interest was high. Many felt that impulse photos were something that would be nice to send to friends and family. Some even wanted to use the phone as a photo album, where it was possible to show photos of friends. Thus, the respondents felt that the picture and photo capability was something for remembering relationships. However, the likelihood of usage was lower, it received only a 6. This shows that the likelihood of using an interesting service is not certain, because of the high price expectance. The users were not ready to pay for the service.

The possibility to see the person that you are talking to was also interesting. It was given a rating of 7. But in contrast to downloading pictures, many saw themselves using the service and it received a rating of 8,5. By the look of it, this service was highly relevant

and expected. One explanation to this is that social relationships are felt important and that this service improves the contact between individuals. Also the possibility to localise friends was perceived as interesting, for the same reason. However, the feelings of this service were contradictory. Some wanted to keep track on family members for security reasons. Others felt that this service made it impossible to be outside reach without a good explanation. As such, the service invaded the individual's privacy, not only from a commercial point of view, but also from a social point of view. Thus, the likelihood of using this service was lower than the interest.

#### Low Interest in Active Information Search

When asked about their knowledge of services, given examples were mainly limited to SMS, downloading of songs and icons, games, and informational services such as news, weather reports and financial information. Among services demanding a WAP phone only games were mentioned but few, if any, actual games could be mentioned (which could be explained by the fact that only one of the interviewees had a WAP phone). Although portals offering mobile services were frequently identified, few of the respondents had explored their range of products. Some felt that the limited format of the mobile phone's display made it uncomfortable to use in general. Many thought that they would not find anything interesting anyway, and that if there were an interesting service launched they would somehow hear about it through friends or family. By and large, friends and family was the main source of information for starting to use the service and they also provided hints on making the usage more efficient. The role of the media was to provide an overall view of the development in the



industry. However, the communication in the media was somewhat unclear or insufficient, although the reason could be the inactivity to improve the knowledge.

*“Companies should inform more. People don’t actively search for what is possible to do with the mobile phone.”*

### Little Knowledge of Enabling Technology

Regarding the level of knowledge about technology and hardware, most of the respondents indicated that they knew little about the enabling technology or about other hardware than mobile phones. However, knowledge about mobile phones was high and clear preferences were expressed. The high penetration rate of mobile phones in Sweden might indicate a dependence on the mobile phone as a device over which services will be used. In contrast, in the US, devices, such as two-way pagers, have been developed for e.g. SMS communication.

The opinions on the WAP technology showed interest but limited knowledge of market developments. Especially the female respondents expressed that the hype about the technology investments made it difficult to know what works well and what takes years to achieve. Also, the respondents did not see the benefits in technology developments, which supports the argument that knowledge of technology is insufficient, even though it received much attention in the media.

*“I read about it [WAP] everywhere, but I don’t understand what it is and what I could use it for.”*

### Understanding of Pricing

The respondents did not understand how the usage costs were calculated, which indicates that price assessments were only assumptions. It is evident that the pricing of services has not been successfully communicated, and the respondents called for clearer and easier pricing calculations. Also consistent and comprehensive pricing strategies among operators could reduce the confusion.

*“There are complete booklets that must be read in order to calculate what one can gain on the whole.”*

### EMPIRICAL RESULTS 2: REASONS FOR AND AGAINST ADOPTING MOBILE SERVICES

When asked about the reasons for using mobile services two broad usage were identified. The first reason for using mobile services was purely rational where the user wanted to achieve something clearly defined, such as being more informed about current occurrences in the near environment. The other reason for using mobile services was more emotional where the users stated benefits such as social belonging and amusement.

Factors slowing down the adoption of mobile services related to marketing and strategies. Pricing and technology were two factors that hindered or complicated the adoption.

### Rational Usage

The first usage group relates to clearly defined needs, such as the need for certain information, e.g. weather, financial info. In this case customers can articulate preferred service attributes. They can also formulate possible future needs and imagine services that might be attractive. The value of mobile services was mainly convenience for the user, instant access to information, continuous availability, and reduced need to plan activities.

*“One must have such a range of services so that it is possible to choose what is good for me.”*

*“The value can be just to get information rapidly and directly, even though it is only something small.”*

However, in this category, many of the customers expressed a higher interest in potential services compared to their estimated likelihood of becoming users. In other words, those services that increased the convenience for the user were perceived as interesting, e.g. possibility to see the person at the other end of the phone or high quality calls, but the likelihood of using them were lower.

Rational usage motivates the adoption of mobile services because it improves the compatibility of mobile services. Because some services fulfill a clear need, it supports existing values, habits and experiences.

### Community Usage

The second group of reasons for using mobile services relates to the satisfaction of more fuzzy needs such as amusement or desire to fit in among a group peers. Games and chat possibilities are examples of such services. It is interesting to note that owning the mobile phone is stated as a "must" in order to be included in many activities since "nobody can decide anything well in advance anymore". Or as another respondent put it:

*"I never turn my phone off because I get stressed by the risk of missing out on something. I feel that I would not make it without a phone".*

The same lines of arguments are applied for the use of SMS:

*"It's not that I always want to say anything important, I just want to be social. And if I don't respond when I get an SMS people would get irritated".*

However, the respondents found it difficult to identify or evaluate hypothetical services of this kind. What they do believe, though, is that the likelihood of getting "hooked" on an entertainment service exists even for services that are not judged to be extremely interesting at first sight. One such service is mentioned is the possibility to see whom you are talking to. Thus, new mobile services create new demands, even though they do not directly fulfil a new need.

The fact that community usage motivates adoption of mobile services is consistent with the theoretical framework. Community usage, that involves many users, promotes triability through word-of-mouth communication and social learning, communicability through the joint usage of services such as games, and decreases perceived

risk through interactions and learning among users. This is also the case with complexity, where users tend to teach each other what services to use and inform about new features.

### Pricing issues

Pricing issues appeared as one of the most engaging factors hindering the use of mobile services. The respondents felt that the prices were too high, especially compared internationally. Particularly the costs for SMS were perceived high and prices were compared with other Nordic countries.

*“It is almost a crime to have such high costs.”*

The investments made in technology for 3G are also a major concern. The respondents did not see the benefits in them and felt that they were unreasonable.

*“It feels like we are paying for their future investments now”.*

This confirms the experiences from the industry that new possibilities provided by technology are not that interesting and that only a small amount of individuals have adopted 3G. In addition for high usage costs, the new technology requires investments in new mobile devices, making the usage even less compelling.

By and large, the respondents said that if they could get the same service somewhere else than on the mobile device for free, they would not pay for it. This indicates that the mobility capability is valuable only to a certain extent and that the monetary sacrifice

diminishes the perceived benefit of being mobile. Also, having to pay is said to be keeping many of the customers from initially trying services they are not sure about. The respondents liked to try the services without costs, then if found useful or pleasant, they would consider paying for them.

Pricing issues due to their complexity strongly deter increased use of mobile services. The respondents could not see the relationship between the pricing and the benefits of using the services. When comparing to Internet, where almost everything is free of charge, many think that mobile services are only in certain situations better than Internet services, mainly when a fixed connection to Internet is unavailable for a longer time. This is coupled with the fact that e.g. SMS services are available also on Internet, but for free.

### Technology Limitations

Another reason for not using mobile services can be related to the fact that some of them, like games, require WAP phones, which are rare among users. And before presented with really interesting services users are not prepared to invest in one. Moreover, the technology in itself restricts active usage as it is unreliable and slow, especially with more advanced services such as downloading e-mail or data.

Technology was also an indirect reason against adopting mobile services. Reluctance toward heavier use of the mobile phone was expressed through statements such as:

*"I don't want a development that makes us do everything over our phones. It will only lead to more stress. You have to do things at once, you have no excuse for not being updated and so on"*

*"I don't think all technological development is good, what will happen to human interaction?"*

Relative advantage of technology seriously affects the adoption of mobile services. Although the knowledge of technology was generally low, many respondents had strong opinions of impact of technology developments. They did not perceive how the new technology was superior to the existing technology, at least compared to the relatively high initial investment needed. In line with this, the perceived risk of the new technology was perceived high. This was especially true with both psychological and social stress factors. Some of this risk could be reduced by the possibility to try the new technology free of charge.

## DISCUSSION

An interesting finding is that new services were considered interesting but still the likelihood of using these services was not high and that the services are not that relevant in the users life and/or clear benefits are missing.. This indicates that the users did not see the any benefits of using these kinds of services. The usage of mobile service and frequency of usage were not consistent and although some services were used by many of the respondents they did not score high on the frequency factor. This was especially true for picture downloads and chatting. Even if some experienced these services as interesting, they were not likely to be

used via a mobile device. One reason could be the technology, which limited the usage or experience of the service.

The importance of community usage is another interesting finding. Services related to increasing the enjoyment and relaxation motivated the adoption and use of mobile services. This is consistent with Lewis and Bridger (2000) who discuss the changing role of consumers. They argue that in the search of something authentic the consumer combine consumption with socializing. Thus, the consumer is more involved in his consumption and seeks timesavings, personal advantage and increased pleasure.

In general, it seems that the study confirms Riquelme's (2001) observations. The mobile phone as a category appears to be interesting for attribute research as it is a product/service that customers (here: young customers) are highly familiar with. The phone and the services are frequently used, and customers *generally* (with the exceptions presented in the results) can be assumed to have good current knowledge about the characteristics of the mobile phone services they have purchased. However, also in line Lasca and Zinkham (1999), customer confusion can be shown to be high, more so concerning certain aspects of the mobile industry and its services, its price policies.

As concerns the adoption of new mobile data services for e.g. 3G, the reluctance to adopt some of these services were obvious. Our results are consistent with prior research on the adoption of an innovation (e.g. Hirschmann 1987, de Ryuter, Wetzels and Kleijnen 2000). The focus groups point to several of these factors: There seem to be lack of compatibility as the new services are not perceived as consistent with the user's present needs, motives, values, beliefs and behaviour. Furthermore, the customers have not been able to try out an innovation without subscribing to it. Also, the use of mobile services frequently requires investments in technology, incurring therefore a certain risk. The innovation is still not observable, not enabling social visibility for the consumer. Lastly, there is a degree of



perceived complexity, implying difficulties of understanding the benefits of the services, using familiar characteristics to assess the service innovations in mobile services. The new mobile services are seldom perceived as superior to existing alternatives, e.g. SMS.

One main drawback of the study was the low number of respondents. To date only 4 focus group interviews have been conducted. However, given that the study belongs to a larger international research project and that the same study has been conducted in other countries, this study is well accounted for. The results achieved and conclusions made show consistency with the results from the same study made in Finland. This improves the validity of the present study.

## CONCLUSIONS

The main purpose of the first part of this ongoing study is to investigate individuals' acceptance of mobile services. Two main questions were posed: 1) What is the general knowledge of and interest in mobile services among individuals? 2) What are the reasons among these customers for using or not using certain mobile services?

Firstly, results from the first part of the study indicate that customers' knowledge about existing mobile services is low. Areas where actual demand for new services can be distinguished generally belong to two groups: activity management and services related to social belonging and interaction. On the whole, there is relatively little interest in active search for information concerning the new mobile services, little knowledge of the new technologies, and interest in mobile services relates to extensions of already existing services.

Secondly, the main reasons for the usage of mobile services fall into two categories: reasons connected to clearly defined and delimited needs and usage, and reasons connected to need for social belonging and possibilities to create, expand and consolidate certain customer communities. Elements hindering the adoption related to pricing and technology.

### MANAGERIAL IMPLICATIONS

In light of the results and conclusions from the study and from a market pull/invention push perspective, some tentative implications can be made. Firstly, those customer groups that express clearly defined and delimited needs and usage of specific mobile services, (such as financial information) might be hindered today by the limitations of the technology. Technology is perceived as restricted making the usage complicated. Also the price and limitations of supply of the new technologies seem to be a hindrance. It can be assumed that for services with a clearly defined use a pull strategy might be easier to pursue rather than an invention push strategy. Customers can more easily be a source for ideas as they probably more easily can express their needs. Promoting market pull of extended, "old" services, like SMS, also seems to be a possible strategy.

Secondly, in the customer groups where the need for entertainment services and services connected to social belonging is greater - including possibilities to create, expand and consolidate customer communities - a market pull strategy to diffuse the new services might be more difficult, due to the fact that needs are more diffuse and difficult to define. One strategy would be to focus on less advanced services, with some form of invention push and

first mover strategy, in order to gradually see how the markets reacts and changes in relation to the new services launched.

The present study gives some managerial implications in terms of how to increase the acceptance of mobile services. This can be done by 1) growing the knowledge about mobile services, 2) improving and extending the existing mobile services, 3) increasing price stringency, and 4) extending community usage.

### Growing Knowledge of Mobile Services

Lack of sufficient knowledge about existing services and applications hinders the acceptance of mobile services. Customers do not understand what is already possible to do with the mobile device and thus lack the knowledge about the benefits. In contrast, the drawbacks are easier to comprehend. The customers have not overlooked, for example, the large investments in the 3G-system standard, and this raises the question whether the investments will be shifted to the customer in terms of higher usage costs. Consequently, there is a need to teach customers about existing services. One method is to increase interactivity and to promote better contact between customer-service provider and customer-customer. In other words, by increasing word-of-mouth communication it is possible to create attention and interest towards mobile services.

Another way to improve the knowledge of mobile services is to connect them to an existing traditional service brand. Research has shown (van Riel, Lemmink and Ouwersloot 2001) that brand extension strategies can be successful in cases where significant similarities in service delivery exist. So mobile services that are similar to existing traditional

services, such as games, news or information, that customers are familiar with could ride on existing brands, and as such receive better acceptance.

### Improving and Extending Existing Mobile Services

The research showed that existing mobile services are difficult to comprehend. Although this is mainly a result from lacking knowledge about the services, some fault can be placed on service design. Customers perceive that the mobile technology to some point limit the usage of mobile services. But, where technology developments are intensifying the crucial improvement is needed in refining existing services. An effective start is the Short Message Service capability that already has been received by the masses. This frequently used service could be extended and added with other services than direct communication messages between customers. For example, services such as information about exam deadlines or ticket releases are already possible for some Swedish mobile subscribers.

Another method to improve existing mobile services is to emphasise the usability of mobile services. By demonstrating the linkage to other supplementary channels, e.g. Internet, the benefits of mobile services are more easily understood. The results showed that consumers perceive Internet and mobile devices as strengthening each other. The complementarity of the channels would thus be an interesting research agenda.

### Increasing Pricing Stringency

Pricing issues were another reason for slowing the acceptance of mobile services. Because customers do not easily see the benefits of mobile services, they are more inclined to see the sacrifice associated with the usage. However, where the existing mobile services are complex, also assessments of prices are difficult. By providing easier price comparisons, the acceptance of mobile services could actually increase. Also clearer service packages with separate prices can be used to increase the price stringency of mobile services.

### Extending and Expanding Community Usage

The research showed that a large part of the existing mobile usage refers to community usage that links the customer to others with similar interest. This is in line with research on the role of new consumers that state that consumers value social and involved consumption (Lewis and Bridger 2000). Interestingly, consumers want to be accepted by their community and want to feel that they belong to the group. Thus, it is important that the community creates and maintains clear purpose and meaning. Managerially, this creates an opportunity in terms of developing services around a specific and distinct issue that a community can be interested in. One good example is the Nokia Club that gathers people interested in games around a community specialised in games. By using both the Internet and mobile device, the customer can interact with each other and simultaneously create and motivate usage among the community.

### CONCLUDING COMMENTS

Moving from mobile telephony to a more open view of the focal, wireless technology, including mobile Internet and links to wireline infrastructures, we build on prior research tracks. However, we can include in forthcoming studies a wider set of actors, in other industries, that are connected to the telecommunications industry. The main problem still concern the gaps between the supplying and the buying networks of organisations, what factors that affect the bridging of these gaps, and how companies try to re-organise and break parts of the established inter-organizational structures as new technologies, services and solutions are developed and taken into use.

All prior studies have taken an empirical starting point in understanding the implementation of existing technologies in existing inter-organisational systems. Thus, the aim has been to avoid the (many) visionary aspects of how new technological solutions might change the systems, as presented by actors in the industry. Our belief is that to be able to discuss any of the many potential future lines of development, such discussions need to be built on a thorough understanding of the structures and business logics of present inter-organisational systems, including the inertial forces that are part of every such system.

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